

Mammalia, Rodentia, Sigmodontinae, *Euneomys chinchilloides* (Waterhouse, 1839): Range extension

Ulyses F. J. Pardiñas¹, Pablo Teta^{2*}, Juan C. Chebez³, Flavio D. Martínez⁴, Simón Ocampo⁵ and Darío O. Navas⁵

¹ Centro Nacional Patagónico, Unidad de Investigación Diversidad, Sistemática y Evolución. CC 128, 9120 Puerto Madryn, Chubut, Argentina.

² Museo Argentino de Ciencias Naturales "Bernardino Rivadavia". Avenida Ángel Gallardo 470, (C1405DJR) Buenos Aires, Argentina.

³ Fundación de Historia Natural Félix de Azara, CEBBAD, Universidad Maimónides. Valentín Virasoro 732, 1405 Ciudad Autónoma de Buenos Aires, Argentina.

⁴ Dirección de Recursos Naturales Renovables de Mendoza. Mendoza, Argentina.

⁵ Parque Provincial Aconcagua. Mendoza, Argentina.

* Corresponding author. E-mail: anthea@yahoo.com.ar

ABSTRACT: A new record of *Euneomys chinchilloides* (Waterhouse, 1839) at Parque Provincial Aconcagua (Mendoza, Argentina), is reported based on two fresh specimens found dead and several cranial remains found in owl pellet samples. The current record enlarges its distribution in the Andean region of Argentina ca. 250 km to the north.

Euneomys chinchilloides (Waterhouse, 1839) is a large (mean weight of adults specimens = 85 g), short-tailed, cursorial sigmodontine rodent that lives in bare, windswept, rocky scree habitat along the southern Andes and the Patagonian steppes from about 35° S in Argentina and 33° S in Chile south to the Cabo de Hornos (Pearson 1995). In Argentina, its northernmost locality record corresponds to Laguna de la Niña Encantada (ca. 35°10' S, Mendoza Province; Massoia *et al.* 1994; Pardiñas *et al.* 2008; Figure 1), while in Chile, to the locality of Farallones (ca. 33°17' S, Región Metropolitana de Santiago, Chile; Yáñez *et al.* 1987). In this note, we present a new recording locality for this species in province of Mendoza that enlarges its current distribution in Argentina ca. 250 km to the north.

We studied two fresh specimens found dead in the Seccional Horcones of Parque Provincial Aconcagua, Mendoza (32°48'55.92" S, 69°56'28.60" W, 2922 m; Figure 1) and also several cranial remains found in two owl pellet samples collected in this same protected area (32°49'28.4" S, 69°56'31.4" W, 2850 m; 32°49'26.0" S, 69°55'18.1" W, 2771 m; Figure 1). The studied specimens are housed in the mammal collection of the Fundación de Historia Natural "Félix de Azara" (Buenos Aires, Argentina), with the accession numbers CFA 345 and CFA 346 (fresh specimens conserved in fluid with removed and cleaned skulls) and in the Colección de Material de Egagrópilas y Afines "Elio Massoia" of the Centro Nacional Patagónico (Chubut, Argentina), under the numbers CNP-E 390 and CNP-E 391 (owl pellet samples). The study area is included within the Southern Andean Steppe eco-region (*sensu* Olsen *et al.* 1999).

Cranial and dental remains of *E. chinchilloides* (Figure 2) are recognizable by the following combination of characters: anterior expansion of the nasals slightly noticeable; posterolateral palatine foramina with sub-elliptic contour; presence of a median process in the palatine; and upper incisors with a medium-lateral groove.

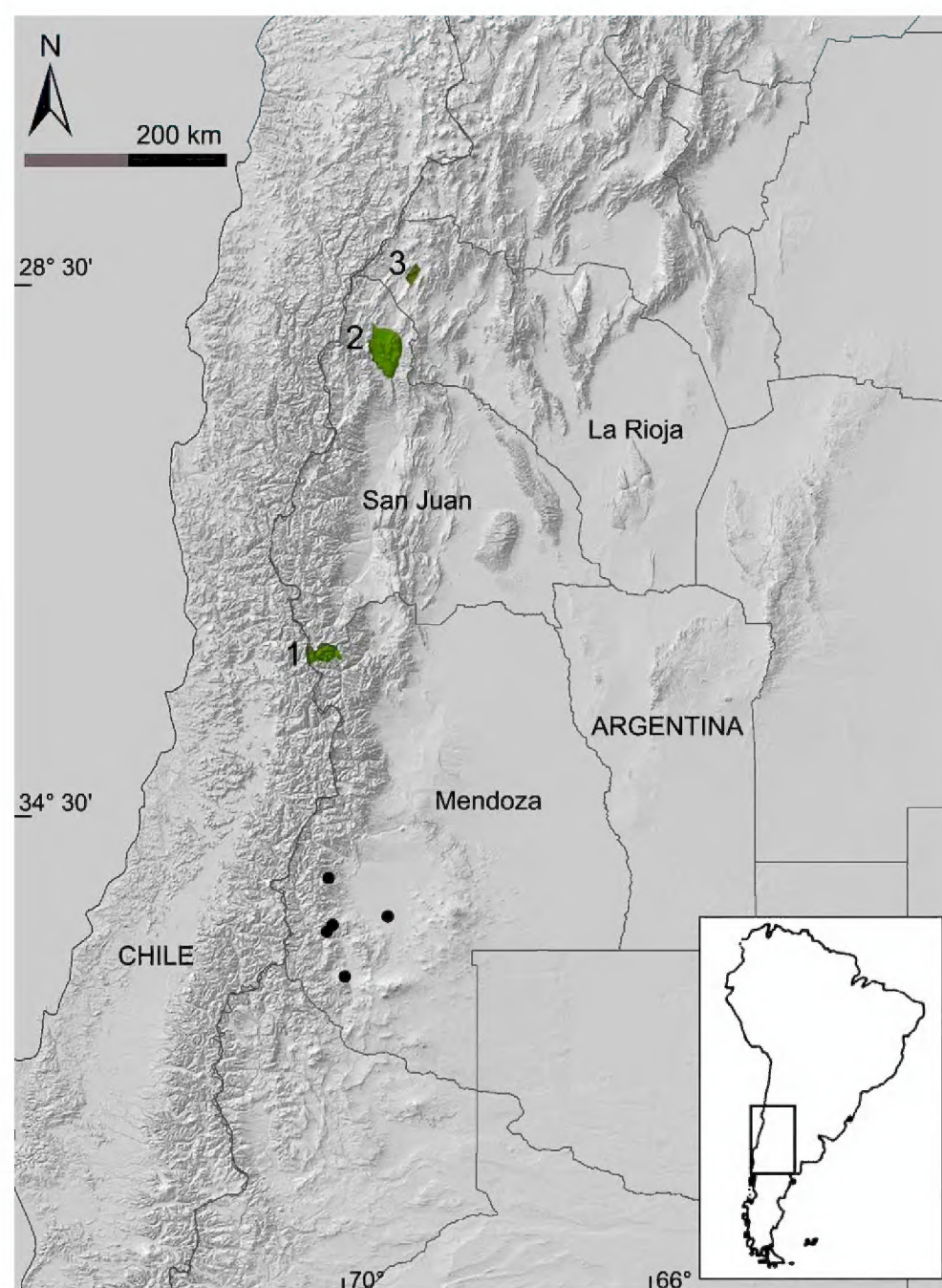


FIGURE 1. Known distribution of *Euneomys chinchilloides* in Province of Mendoza (black circles; see Pardiñas *et al.* 2008) and new recording locality in Parque Provincial Aconcagua (1). Localities 2 (San Guillermo National Park and Provincial Reserve) and 3 (Laguna Brava Provincial Reserve) represents the southernmost areas in the distribution of Punaean sigmodontine rodents.

In addition, fresh specimens have a conspicuous white spot above the rhinarium (*cf.* Pine *et al.* 1979).

Some external measurements of the fresh specimens (in mm) are as follow (CFA 345, adult male - CFA 346,

subadult female): tail length = 65-67; hindfoot length (with claw) = 27-26; ear length = 20-20. Skull measurements for these same individuals are (skulls are mostly damaged): palatal length = 14.84-14.04; upper diastema length = 8.43-7.95; interorbital width = 3.72-4.08; length of nasals = ?-13.52; maximum width of the nasals = ?-4.37; upper tooththrow length = 5.84-5.90; width of the incisors = 2.91-2.47.

From a taxonomical point of view, we provisionally follow the opinion of Reise and Gallardo (1990) and Pearson and Christie (1991), the most recent reviewers of this genus, which refers the smaller forms of *Euneomys* to *E. chinchilloides*. Contrary to this view, Musser and Carleton (2005) restricted the name *chinchilloides* for populations from Tierra del Fuego and referred mainland samples to *E. petersoni* J. A. Allen, 1903, a taxonomic hypothesis that must be further tested. Specimens from Valle Hermoso, southern Mendoza, morphologically identified as *E. chinchilloides*, have a different diploid complement (see Ojeda et al. 2005) from specimens of southern populations assigned to this species (Reise and Gallardo 1990). Pearson and Christie (1991) treated *E. noei* Mann, 1944 as conspecific with *E. mordax* Thomas, 1912, but Reise and Gallardo (1990) considered it a subjective synonym of *E. chinchilloides*, an opinion not supported by the morphological characteristics of the holotype (see Musser and Carleton 2005). It is clear that the genus needs a taxonomic revision and probably some binomial usage can be change in a near future. However, the specimens from Aconcagua reported here morphologically belong to the *chinchilloides* group and clearly depart from the *mordax* group.

Studied owl pellet samples were dominated by *Euneomys chinchilloides*, with moderate proportions of *Phyllotis xanthopygus* (Waterhouse, 1837) and *Abrothrix* sp. The presence of *E. chinchilloides* in the northwestern sector of province of Mendoza is relevant by its biogeographical implications. Several Patagonian micromammal species [e.g., *Abrothrix olivaceus* (Waterhouse, 1837), *A. longipilis* (Waterhouse, 1837), *Chelemys macronyx* (Thomas, 1903), *Loxodontomys micropus* (Waterhouse, 1837)], have their northernmost locality records in Argentina near the 35° S (Pardiñas et al. 2008). These species have a distribution compressed against the Andes in Mendoza and northern Patagonia that gradually expands to the east in southern latitudes (Pardiñas et al. 2003; 2008).

The finding documented in this note suggests that at least *E. chinchilloides* distributes farther to the north, reaching the 32° S. More in general, there is a large gap of knowledge about the high Andean small mammal communities in central latitudes of Argentina. North of Aconcagua, the first substantial data on small mammal assemblages are from the region of San Guillermo and Laguna Brava (north of San Juan and south of La Rioja province, respectively; see Walker et al. 2007; Donadio et al. 2007; Figure 1). San Guillermo assemblage is composed by Punean elements [e.g., *Abrothrix andinus*, *Neotomys ebriosus* (Thomas, 1894)]. Probably, the contact between the northernmost Patagonian elements and the southernmost Punean ones occurs between Aconcagua and San Guillermo, a large area of about 300 km crossed by the highest mountain ranges of the Cordillera de los Andes and where large scale mining developments are growing today.

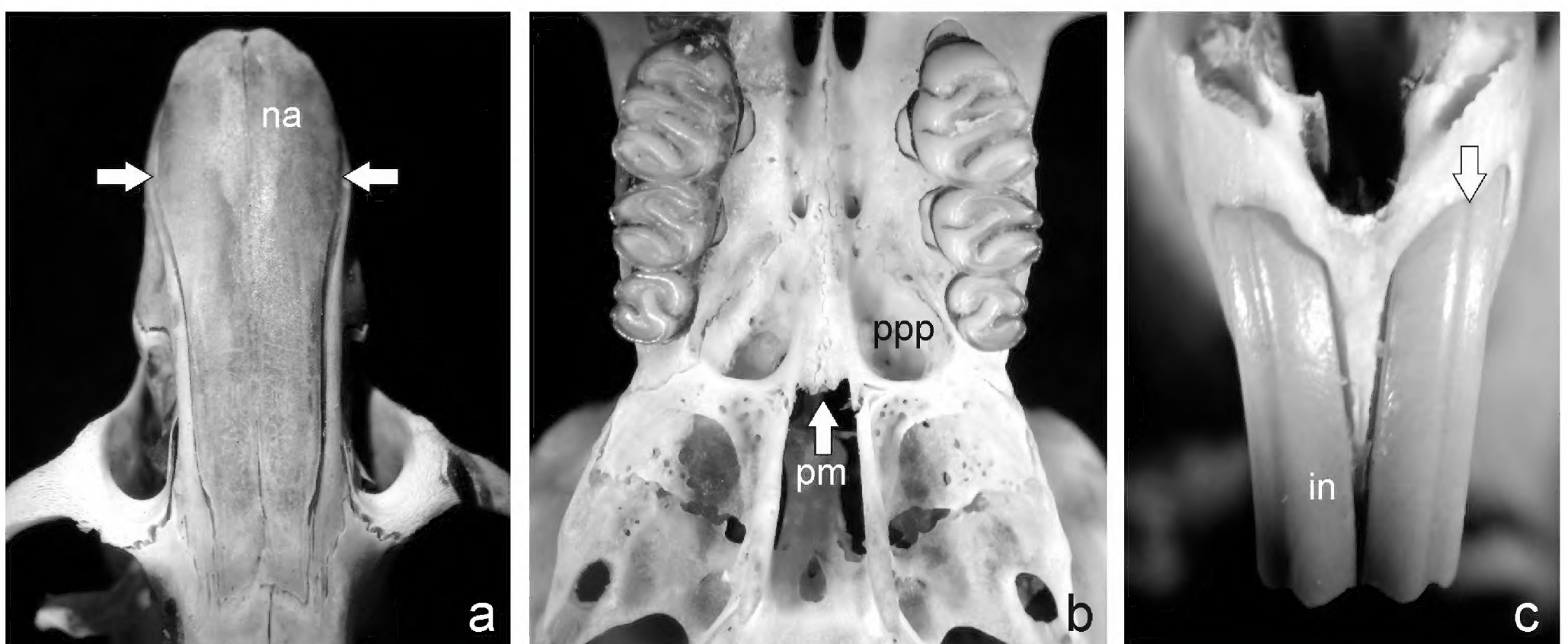


FIGURE 2. Some features of the cranial morphology of *Euneomys chinchilloides* (Seccional Horcones, Parque Provincial Aconcagua, Mendoza, Argentina): a. Anterior part of the nostrum in dorsal view (the arrows indicate the section of maximum width of nasals; CFA 346); b. Palate (CFA 345); c. Upper incisors in frontal view (the arrow shows the lateral placement of the incisor groove; CFA 345). Abbreviations: in = incisive, na = nasal, pm = medial process of the palatine, ppp = posterolateral palatine pit. Upper tooththrow of the specimen CFA 345 = 5.8 mm.

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LITERATURE CITED

Donadio, E., M.J. Bolgeri and A. Wurstten. 2007. First quantitative data

on the diet of the Mountain Caracara (*Phalacrocorax magalopterus*). *Journal of Raptor Research* 41(4): 328-330.

Massoia, E., J.C. Chébez, and S. Heinonen Fortabat. 1994. La depredación de algunos mamíferos por *Bubo virginianus* en el Departamento Malargüe, Mendoza. *Boletín Científico de la Asociación para la Protección de la Naturaleza* 8(26): 2-5.

Musser, G.G. and M.D. Carleton. 2005. Superfamily Muroidea; p. 894-1531 In D. Wilson and D.A.M. Reeder (ed.), *Mammal species of the world:*

- a taxonomic and geographic reference. 3rd ed. Baltimore: Johns Hopkins University Press.
- Ojeda, A.A., G.D'Elía, and R.A. Ojeda. 2005. Taxonomía alfa de *Chelemys* y *Euneomys* (Rodentia, Cricetidae): el número diploide de ejemplares topotípicos de *C. macronyx* y *E. mordax*. *Mastozoología Neotropical* 12(1): 79-82.
- Olson, D.M., E. Dinerstein, E.D. Wikramanayake, N.D. Burgess, G.V.N Powell, E.C. Underwood, J.A. D'Amico, H.E. Strand, J.C Morrison, C.J. Loucks, T.F. Allnutt, J.F. Lamoreux, T.H. Ricketts, I. Itoua, W.W. Wettengel, Y. Kura and H. Kassem. 2001. Terrestrial ecoregions of the world: a new map of life on Earth. *BioScience* 51(11):933-938.
- Pardiñas, U.F.J., P. Teta, S. Cirignoli and D.H. Podestá. 2003. Micromamíferos (Didelphimorphia y Rodentia) de norpatagonia extra andina, Argentina: taxonomía alfa y biogeografía. *Mastozoología Neotropical* 10(1): 69-113.
- Pardiñas, U.F.J., P. Teta and D.E. Udrizar. 2008. Mammalia, Didelphimorphia and Rodentia, south-western Province of Mendoza, Argentina. *Check List* 4(3): 218-225.
- Pearson, O.P. 1995. Annotated keys for identifying small mammals living in or near Nahuel Huapi National Park or Lanín National Park, southern Argentina. *Mastozoología Neotropical* 2: 99-148.
- Pearson, O.P. and M.I. Christie. 1991. Sympatric species of *Euneomys* (Rodentia, Cricetidae). *Studies on Neotropical Fauna & Environment* 26(2): 121-127.
- Pine, R.H., S.H. Miller and M.L. Schamberger. 1979. Contributions to the mammalogy of Chile. *Mammalia* 43(3): 339-376.
- Reise, D. and M.H. Gallardo. 1990. A taxonomic study of the South American genus *Euneomys* (Cricetidae, Rodentia). *Revista Chilena de Historia Natural* 63(1): 73-82.
- Walker, S.R., A.J. Novaro, P. Perovic, R. Palacios, E. Donadío, M. Lucherini, M. Pia and M.S. López. 2007. Diets of three species of Andean carnivores in high-altitude deserts of Argentina. *Journal of Mammalogy* 88(2): 519-525.
- Yáñez, J.L., J.C. Torres-Mura, J.R. Rau and L.C. Contreras. 1987. New records and current status of *Euneomys* (Cricetidae) in Southern South America; p. 283-287 In B.D. Patterson and R.M. Timm (ed.). *Studies in Neotropical Mammalogy. Essays in honor of Philip Hershkovitz. Fieldiana, Zoology, new series* 39.

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